NORTH CAROLINA DIVISION OF AIR QUALITY

Application Review

Issue Date:

Region: Fayetteville Regional Office
County: Robeson
NC Facility ID: 7800166
Inspector's Name: Joshua L. Harris
Date of Last Inspection: 12/22/2016
Compliance Code: B / Violation - emissions

Facility Data

Applicant (Facility's Name): North Carolina Renewable Power - Lumberton, LLC

Facility Address:
North Carolina Renewable Power - Lumberton, LLC
1866 Hestertown Rd
Lumberton, NC 28358

SIC: 4911 / Electric Services
NAICS: 221112 / Fossil Fuel Electric Power Generation

Facility Classification: Before: Title V **After:** Title V
Fee Classification: Before: Title V **After:** Title V

Permit Applicability (this application only)

SIP: 02D .0504, 02D .0515, 02D .0516, 02D .0521, 02D .0524., 02D .0530, 02D .0614. 02D .1100, 02D .1111, 02Q .0317, 02Q .0400
NSPS: Subpart Db
NESHAP: GACT JJJJJ, GACT ZZZZ
PSD: Yes
PSD Avoidance: Yes
NC Toxics: N/A
112(r): N/A
Other: Renewal of TV permit and Acid Rain permit

Contact Data

Facility Contact	Authorized Contact	Technical Contact
Steven Ingle Vice President - Engineering (205) 545-8759 2100 Southbridge Parkway, Suite 540 Birmingham, AL 35209	Steven Ingle Vice President - Engineering (205) 545-8759 2100 Southbridge Parkway, Suite 540 Birmingham, AL 35209	Steven Ingle Vice President - Engineering (205) 545-8759 2100 Southbridge Parkway, Suite 540 Birmingham, AL 35209

Application Data

Application Number: 7800166.16B, .16C, .16D,.16F,.16G, .16H, .17A, .17B
Date Received: 02/26/2016, 03/03/2016, 04/04/2016, 07/12/2016, 07/22/2016, 10/13/2016, 01/22/2017, 01/22/2017
Application Type: Numerous
Application Schedule: TV-Renewal

Existing Permit Data

Existing Permit Number: 05543/T24
Existing Permit Issue Date: 05/10/2017
Existing Permit Expiration Date: 09/30/2017

Total Actual emissions in TONS/YEAR:

CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2015	3.17	40.85	1.02	186.35	5.74	2.17	1.46 [Hydrogen chloride (hydrochlori]
2014	---	---	---	---	---	---	.00E+00 [Antimony & Compounds (total ma]
2013	---	---	0.3100	---	---	---	.00E+00 [Antimony & Compounds (total ma]
2012	---	0.0500	0.3100	0.0100	---	4.78E-05	1.31E-05 [Formaldehyde]
2011	---	0.0500	0.3100	0.0100	---	4.92E-05	1.37E-05 [Formaldehyde]

Review Engineer: Betty Gatano

Review Engineer's Signature: **Date:**

Comments / Recommendations:
Issue 05543/T25
Permit Issue Date:
Permit Expiration Date:

1. Purpose of Applications

North Carolina Renewable Power – Lumberton, LLC (NCRP) currently holds Title V Permit No. 05543T24 with an expiration date of September 30, 2017 for a cogeneration power plant in Lumberton, Robeson County, North Carolina. NCRP submitted the following permit applications during 2016 and 2017, and these have been consolidated under this permit:

- Permit Application No. 7800166.16B – The 502(b)(10) notification was received on February 26, 2016. NCRP proposes to replace its two existing multiclones (ID Nos. CD-1A2 and CD-1B2) with two new, higher efficiency multiclones with 20, 24-inch tubes, each. NCRP will also replace the fly ash drag chains and remove the bottom ash silo (ID No. ES-4).

- Permit Application No. 7800166.16C – The 502(b)(10) notification was received on March 3, 2016. NCRP proposes to vent the poultry litter warehouse to the atmosphere rather than to the boilers (ID Nos. ES-1A and ES-1B).

- Permit Application No. 7800166.16D – This application is for a state-only modification and was received on April 4, 2016. The application is to establish the SB3 BACT limit for sulfur dioxide (SO_2) for non-CISWI subject wood.

- Permit Application No. 7800166.16F – This application is a "Part 2" significant modification under 15A NCAC 02Q .0501(c)(2) and was received on July 12, 2016. An amendment to this permit application was received on September 22, 2016 to delete the requirement to monitor pressure drop across baghouses (ID Nos. CD-1A and CD-1B).

- Permit application No. 7800166.16G – This application for a minor modification under 15A NCAC 02Q .0515 was received on July 22, 2016. This permit application is for repairs to the boilers and for the modification of the existing over fire air (OFA) systems. The application included a request to delete the requirement to monitor pressure drop across baghouses (ID Nos. CD-1A and CD-1B). Because this change represents a relaxation of a monitoring requirement, this modification was deemed a significant modification per 15A NCAC 02Q .0516(b)(1) and could not be processed as a minor modification. The facility subsequently submitted an amendment to the "Part 2" significant permit application (7800166.16F) requesting this change, as noted above.

- Permit Application No. 7800166.16H – The 502(b)(10) notification was received on October 13, 2016. NCRP proposes to add a poultry litter storage shed.

- Permit Application No. 7800166.17A – This permit application is for a Title V permit renewal and was received on January 24, 2017. The permit application was received less than nine months prior to the expiration date, as required by General Permit Condition 3.K. Therefore, the application shield as provided under 15A NCAC 02Q .0512(b) does NOT extend to the existing permit.

- Permit Application No. 7800166.17B – This permit application is for a renewal of the Acid Rain permit and was received on January 24, 2017.

The facility information contained in the permit application (Form A) for the permit renewal was reviewed, and the permit and IBEAM were updated as necessary.

2. Facility Description

NCRP fires only non-CISWI subject wood and poultry litter in its two stoker boilers (ID Nos. ES-1A and ES-1B). The boilers operate as cogeneration units, with the majority of the steam (~85%) produced used to generate electricity in the existing turbine and sold to the local utility. The remaining steam (~15%) may be sent to the Alamac American Knit facility, when needed.

The boilers are equipped with several different controls to reduce pollutant emissions. Each boiler is equipped with a selective non-catalytic reduction (SNCR) system (ID Nos. CD-1A3 and CD-1B3). After the treatment with ammonia, the exhaust gas is sent to multiclones (ID Nos. CD-1A2 and CD-1B2) followed by bagfilters (ID Nos. CD-1A and CD-1B) to reduce the particulate matter (PM) emissions. If controls are required for SO_2 or acid gases to meet emission limits, two dry sorbent injection systems (ID Nos. CD1A4 and CD1B4) are used to inject either sodium sesquicarbonate (trona) or sodium bicarbonate in the flue gas exhaust between the multiclones and the bagfilters. The most recent inspection report[1] indicated the dry sorbent injection systems are not in use but will likely be placed in service as the percentage of poultry litter being introduced into the fuel blend increases.

NCRP is also permitted to operate four belt dryers (ID Nos. ES-17, ES-18, ES-19, and ES-21) and a drum dryer (ID No. ES-22). The belt dryers will be used to reduce the moisture content of wood chips from 50% to 7%. Each belt dryer is permitted at a maximum capacity of 6 tons of wood chips per hour, but the maximum capacity may be increased upon source testing. Although the dryers can be used to dry the wood chips that will be fed to the boilers, this situation is highly unlikely. The primary purpose of the belt dryers is to dry wood chips to be sold offsite as product. Hot water from the condenser on the steam turbine will be the sole source of heat for the belt dryers. The drum dryer will have a natural gas-fired burner and will be controlled by a multi-cyclone (ID No. CD-6) and a regenerative thermal oxidizer (ID No. CD-7). The drum dryer will primarily be used to dry and "sanitize" wood chips for sale to (primarily overseas) customers, but some of the drum dryer's output will be fuel for the boilers. Construction on the belt dryers has started, but it has not yet been completed. Construction on drum dryer has not yet begun.

3. Permitting History and Application Chronology

Permit History since Previous Permit Renewal

October 12, 2012	TV permit renewal issued to Lumberton Energy, LLC. Air Permit No. 05543T19 was issued on October 12, 2012 with a permit expiration date of September 30, 2017.
February 20, 2015	Air Permit No. 05543T20 was issued for an ownership change. The permit was issued to North Carolina Renewable Power - Lumberton, LLC.
May 19, 2015	Air Permit No. 05543T21 was issued as a “Part 1” significant modification. Under this permit, coal was removed as a fuel from the boilers (ID Nos. ES-1A and ES-1B) and non-CISWI poultry litter was added. The facility also

[1] Joshua Harris (12/22/2016)

	accepted several Prevention of Significant Deterioration (PSD) avoidance conditions making NCRP a minor facility under PSD.
June 12, 2015	Air Permit No. 05433T22 was issued as an administrative amendment. An incorrect reference to volatile organic compounds in the PSD avoidance condition for SO_2 was removed under this permit.
March 8, 2016	Air Permit No. 05433T23 was issued under a "reopen for cause" permit application. Cross State Air Pollution Rule (CSAPR) Requirements were added to the permit. References to the Clean Air Interstate Rules (CAIR) were moved to Section 2.5. "Permit Shield for Non-Applicable Requirements."
May 10, 2017	Air Permit No. 05433T24 was issued as a "Part 1" significant modification to add fourth belt dryer (ID No. ES-21) and a drum dryer (ID No. ES-21) to the permit. The drum dryer will have a natural gas-fired burner and will be controlled by a multi-cyclone and a regenerative thermal oxidizer. The drum dryer will primarily be used to dry and "sanitize" wood chips for sale to (primarily overseas) customers, but some of the drum dryer's output will be fuel for the boilers.

Application History

February 26, 2016	Received a 502(b)(10) notification to replace the two existing multiclones (ID Nos. CD-1A2 and CD-1B2) with two new, higher efficiency multiclones with 20, 24-inch tubes, each. NCRP will also replace the fly ash drag chains and remove the bottom ash silo (ID No. ES-4). The notification was assigned Permit Application No 7800166.16B.
March 3, 2016	Russell Braswell of DAQ issued a 502(b)(10) acknowledgement letter for the project to replace the multiclones and other equipment.
March 3, 2016	Received a 502(b)(10) notification for venting emissions from the poultry litter warehouse (ID No. IES16) to the atmosphere rather than to the boilers (ID Nos. ES-1A and ES-1B). The notification was assigned Permit Application No 7800166.16C.
March 10, 2016	Betty Gatano of DAQ issued a 502(b)(10) acknowledgement letter for the project to vent the poultry litter warehouse to the atmosphere.
April 4, 2016	Received Air Permit Application No. 7800166.16D for a state-only modification to establish the SB3 BACT limit for SO_2 for non-CISWI subject wood. The permit application was initially assigned to Jeff Twisdale but was later re-assigned to Betty Gatano to consolidate with the application for TV permit renewal.
June 16, 2016	DAQ received a request from NCRP to confirm that maintenance activities for its two existing biomass-fired boilers (ID Nos. ES-1A and ES-1B) fell within the routine maintenance repair, and replacement (RMRR) exclusions

	of the PSD program pursuant to 40 CFR 51.166(b)(2)(iii)(a). The DAQ responded with an applicability determination dated June 24, 2016, in which DAQ confirmed that the activities did meet the RMRR exclusion and were not subject to review under the PSD program.
July 12, 2016	Received Air Permit Application No. 7800166.16F for "Part 2" of a significant modification under 15A NCAC 02Q .0501(c)(2).
July 13, 2016	Issued acknowledgement letter.
July 22, 2016	Received Air Permit Application No. 7800166.16G for a minor modification for boiler repairs and for the modification of the existing OFA systems.
August 1, 2016	NCRP was issued a Special Order by Consent (SOC) (SOC 2016-002) for potential exceedance of the PSD avoidance limit for carbon monoxide (CO) of 250 tons per year (tpy). The facility voluntarily shut down the boilers to avoid exceeding the avoidance limit for CO. The SOC provided provisions for the facility to restart the boilers following completion of maintenance to the boilers. The SOC also addressed violations for failure to conduct stack testing within required time frames, exceeding an emission limit of PM2.5, exceeding emission limits for NO_x and SO_2 as measured by continuous emissions monitoring systems (CEMS), and exceeding downtime of the continuous opacity monitor system (COMS).
August 2, 2016	DAQ issued an acknowledgement letter allowing NCRP to implement the changes proposed in Permit Application No. 7800166.16G immediately, provided the facility complied with both the applicable requirements governing the changes and the interim permit terms and monitoring, recordkeeping, and reporting (MRR) conditions identified in the application.
August 12, 2016	Joshua Harris of the Fayetteville Regional Office (FRO) provided comments on the minor modification (7800166.16G).
September 22, 2016	Received an amendment to the "Part 2" significant application requesting (7800166.16F) to remove the requirement to monitor pressure drop across baghouses (ID Nos. CD-1A and CD-1B).
October 13, 2016	Received a 502(b)(10) notification to add a poultry litter storage shed (ID No. IES-20) as an insignificant activity. The notification was assigned Permit Application No 7800166.16H.
October 19, 2016	Betty Gatano of DAQ issued a 502(b)(10) acknowledgement letter for the new poultry litter shed.
January 27, 2017	Received Air Permit Application Nos. 7800166.17A and .17B for a Title V permit renewal and a renewal of the Acid Rain permit, respectively.
January 27, 2017	Issued acknowledgement letters.

February 15, 2017	Joshua Harris of the FRO provided comments on the TV permit renewal application (7800166.17A).
February 20, 2017	Betty Gatano and Frank Burbach, consultant for NCRP, discussed emission sources to be removed from the permit. Betty Gatano also requested NCRP submit revised emission rates based on a maximum heat input of 215 million Btu per hour for each boiler (ID Nos. ES-1A and ES-1B) and the maximum anticipated percentage of poultry litter used as in the fuel mix.
February 27, 2017	NCRP was issued a second SOC (SOC 2017-001). After restarting the boilers in July 2016, the facility exceeded the PSD avoidance limit for CO. Specially, the 12-month rolling average of CO emission totaled 263.7 tons in September 2016. SOC 2017-001 requires the facility, among other activities, to submit a PSD permit application within 30 days of the effective date of the SOC. The requirements of the SOC will be included in the permit under a schedule of compliance
March 1, 2017	NCRP submitted revised emissions based on a maximum heat input of 215 million Btu per hour for each boiler (ID Nos. ES-1A and ES-1B) and the maximum anticipated percentage of poultry litter used as in the fuel mix.
March 6, 2017	Draft permit and permit review forwarded to staff at DAQ.
March 16, 2017	Comments received from Jeff Twisdale, Permitting Supervisor.
March 17, 2017	Comments received from Josh Harris from FRO.
March 23, 2017	Comments received from Alan Drake and Samir Parekh of the Stationary Source Compliance Branch.
March 23, 2017	Draft permit and permit review forwarded to the facility for comments.
April 14, 2017	Comments were received from Frank Burbach. He indicated the belt dryers, which have not yet been constructed, have a higher capacity than the permitted 6 ton/hr and, depending on the moisture content of the wood. The production rate could be as high as 100 tons/hr.
April 27, 2017	Betty Gatano forwarded revised permitting language on Continuous Emissions Monitoring (CEM) to Frank Burbach.
May 21, 2017	Frank Burbach responded with comments on the revised CEM language.
May 23, 2017	Alan Drake provided comments on revised CEM language.
June 1, 2017	Draft permit and permit review forwarded for additional review.
June 1, 2017	Josh Harris indicated he had no additional comments.

June 8, 2017	Betty Gatano accompanied Josh Harris on an inspection of the NCRP facility in Lumberton, NC. During the site visit, it was discovered that the binvent (ID No. CD-3) was removed as control on the fly ash silo (ID No. ES-3).
June 14, 2017	Alan Drake indicated he had no additional comments.
June 15, 2017	Frank Burbach indicated via phone call that the facility had no additional comments on the draft permit and it could proceed to public notice.
June 16, 2017	Josh Harris provided additional information that the facility had replaced the binvent filter (ID No. CD-3) on the fly ash silo (ID No. ES-3) with a damper that releases when the silo is over pressurized.
June 16, 2017	Betty Gatano informed Frank Burbach that the permitting of the binvent needed to be resolved before the draft permit be sent to public notice. Ms. Gatano suggested the facility submit an amendment to the permit renewal to address this permitting issue.
June 30, 2017	Frank Burbach called to ask if the draft of the permit has been sent to public notice. Ms. Gatano explained that a response was needed regarding the binvent on the fly ash silo.
July 10, 2017	Betty Gatano sent a follow up e-mail stating a response was needed regarding the binvent on the fly ash silo. Ms. Gatano also stated in the e-mail that the draft would be sent to public notice within the next week. No response was received from Frank Burbach.
July 12, 2017	After discussions with Josh Harris of the FRO and William Willets, Permitting Chief, the DAQ decided to remove the fly ash silo as an emission source and forward the draft permit and permit review to public notice.
July 12, 2017	Gov. Roy Cooper signed amendments to certain agricultural rules into law. One of these amendments exempts facilities using agricultural products as a renewable energy resource from requirements under 15A NCAC 02D .1806, "Control and Prohibition of Odorous Emissions." Consequently, all references to 02D .1806 were removed the permit.
July XX, 2017	Permit and permit review forwarded to public notice.

4. Permit Modifications/Changes and TVEE Discussion

The following table describes the changes to the current permit as part of the renewal/modification.

Table 1 – Summary of Changes				
Previous Permit		**New Permit**		**Description of Changes**
Page No.	**Section**	**Page No.**	**Section**	
Cover and throughout	--	Cover and throughout	--	Updated all dates and permit revision numbers.
--	Insignificant Activities List	--	Insignificant Activities List	• Moved the diesel fired 340 hp emergency fire pump (ID No. IES-1) to the insignificant activities list. This emission source meets the definition of insignificant activity under 15A NCAC 02Q .0503(8). • Added the poultry litter storage shed (ID No. IES-20).
--	Table of Contents	--	Table of Contents	Added Section 2.3 for Schedule of Compliance and renumbered the Table of Contents accordingly.
3 – 4	Section 1.0 Equipment List	3	Section 1.0 Equipment List	• Added page numbers. • Moved the diesel fired 340 hp emergency fire pump (ID No. IES-1) to the insignificant activities list. This emission source meets the definition of insignificant activity under 15A NCAC 02Q .0503(8). • Updated description of the multiclones (ID Nos. CD-1A2 and CD-1B2). The previous multiclones were replaced with upgraded multiclones having a higher control efficiency. The identification number remains the same. • Removed fly ash silo (ID No. ES-3) with associated binvent filter (ID No. CD-3). During a compliance inspection, it was discovered that the Permittee had removed the binvent and replaced it with a damper that opens when the fly ash silo over pressurizes. • Removed two fuel bunkers (ID Nos. ES-2A and ES-2B) and associated bagfilters (ID Nos. CD-2A and CD-2B). • Removed bottom ash silo (ID No. ES-4) and associated binvent filter (ID No. CD-4). • Removed two ash vacuum system pumps (ID Nos. ES-5A and ES-5B) and associated control devices (ID Nos. CD-5A through CD-5E). • Removed wood biomass unloading/storage and transfer (ID No. ES-6). • Corrected the capacity of the ammonia tank (ID No. ES-15) to 10,000 gallons. • Removed footnote requiring submittal of a Part 2 permit application. This requirement was fulfilled with the submittal of Permit Application No. 7800166.16F.

Table 1 – Summary of Changes				
Previous Permit		**New Permit**		**Description of Changes**
Page No.	**Section**	**Page No.**	**Section**	
5 – 6	2.1 A – Regulations Table	4 – 5	2.1 A – Regulations Table	• Added reference to Schedule of Compliance, which is provided in Section 2.3. • Removed reference to 15A NCAC 02D .1806. Per SL 2017-108, the Permittee is exempt from this regulation.
6	2.1 A.1.d	--	--	Removed requirement to monitor pressure drop across the bagfilters (ID Nos. CD-1A and CD-1B) and renumbered permit accordingly.
6	2.1 A.1.e	5	2.1 A.1.d	Updated recordkeeping requirements to remove reference to pressure drop across the bagfilters (ID Nos. CD-1A and CD-1B)
7	2.1 A.3.c through e	5	2.1 A.3.c through e	• Added date initial performance testing was conducted. • Added requirements for additional testing when the percentage of poultry litter firing exceeds 50%, 70% and 90% of total heat input to the boilers (ID Nos. ES-1A and ES-1B).
8	2.1 A.3.f	6	2.1 A.3.f	Added date the notification was submitted.
9	2.1 A.4.b	7	2.1 A.4.b	Updated the testing condition to eliminate required testing. This requirement was met with testing conducted in December 2015.
9	2.1 A.4.c	8	2.1 A.4.c	Updated permit condition to specify no monitoring, recordkeeping, or reporting is required.
9	2.1 A.4.d	--	--	Removed permit condition specifying that no reporting is required.
9	2.1 A.5	8	2.1 A.5	Added data averaging period to CAM Plan.
10 – 13	2.1 A.6	9 – 11	2.1 A.6	Updated the permit condition for 40 CFR Part 63, Subpart JJJJJJ, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers," with most current language.
14	2.1 A.7.a	12	2.1 A.7.a	Removed footnote requiring Permittee to establish SB3 BACT limit for SO_2. This requirement was fulfilled with the submittal of Permit Application No. 7800166.16D.
14	2.1 A.7.b	12	2.1 A.7.b	Updated the testing condition to eliminate required testing. This requirement was met with testing conducted in December 2015.
14	2.1 A.7.c and d.	--	--	• Removed condition requiring Permittee to establish SB3 BACT limit for SO_2. This requirement was fulfilled with the submittal of permit Application No. 7800166.16D. • Renumbered the permit accordingly.
14	2.1 A.7.e	12	2.1 A.7.c	Revised the monitoring requirements for monitoring NOx and SO_2 using continuous emissions monitoring (CEM) systems.

Table 1 – Summary of Changes				
Previous Permit		**New Permit**		**Description of Changes**
Page No.	**Section**	**Page No.**	**Section**	
16 - 18	2.1 B	--	--	• Deleted the entire permit condition because all the subject emission sources have been removed from the permit. • Renumbered permit accordingly.
19	2.1 C	--	--	• Removed Section 2.1 C because the non-CISWI subject wood unloading/storage and transfer (ID No. ES-6) is duplicative to fuel storage piles and material handling (ID Nos. IES-10 and IES-11). • Renumbered the permit accordingly.
20	2.1 D	13	2.1 B	Corrected capacity of the aqueous ammonia storage tank (ID No. ES-15)
20	2.1 D – Regulations Table	13	2.1 B – Regulations Table	Removed reference to 15A NCAC 02D .1806. Per SL 2017-108, the Permittee is exempt from this regulation.
21 – 22	2.1 E	--	--	• Removed Section 2.1 E. The diesel fired emergency fire pump (ID No. ES-1) was moved to the insignificant activity list because it meets the definition under 15A NCAC 02Q .0503(8). • Renumbered the permit accordingly.
23	2.1 F	13	2.1 C	Added regulations table.
23	2.1 F.1.f	14	2.1 C.1.f	Specified that the capacity of the belt dryers could be modified via a 502(b)(10) notification.
23	2.1 F.1.g	14	2.1 C.1.g	Clarified that the belt dryers could be moved to the insignificant activities list via a 502(b)(10) notification.
23	2.1 F – Regulations Table	15	2.1 D – Regulations Table	Removed reference to 15A NCAC 02D .1806. Per SL 2017-108, the Permittee is exempt from this regulation.
24	2.1 G.3.c through e	17	2.1 D.3.c through e	Updated monitoring, recordkeeping, and reporting conditions for 15A NCAC 02D .0521 with most current permit language.
27	2.2 A.1.b.i	19	2.2 A.1.b	Revised emission factor for hydrogen chloride based on heat input for the boilers (ID Nos. ES-1A and ES-1B) of 215 million Btu/hr each.
--	--	19	2.2 A.1.b.i	Added permit condition specifying that initial testing was conducted on December 22, 2016, while firing 30% poultry litter.
--	--	19	2.2 A.1.b.ii	• Added requiring additional testing when the percentage of poultry litter firing exceeds 50%, 70% and 90% of total heat input to the boilers (ID Nos. ES-1A and ES-1B). • Renumbered permit accordingly.
27	2.2 A.1.b.i(E)	19	2.2 A.1.b.iii(D)	Updated permit condition to specify the dry sorbent injection systems (ID Nos. CD-1A4 and CD-1B4) are not required during source testing.
28	2.2 A.1.b.	20	2.2 A.1.b.iii(E)	Updated procedures for revising HCl and chlorine emission factors.

Table 1 – Summary of Changes				
Previous Permit		**New Permit**		**Description of Changes**
Page No.	**Section**	**Page No.**	**Section**	
28	2.2 A.1.b	20	2.2 A.1.b.iv	Clarified and promoted noncompliance statement and renumbered permit condition accordingly
28	2.2 A.1.c through e	20	2.2 A.1.d through h	Revised monitoring and recordkeeping requirements for the dry sorbent injection system (ID Nos. CD-1A4 and CD-1B4) for clarification.
29	2.2 A.1.f	20	2.2 A.1.i	Specified that the highest emission factors from testing of poultry litter must be used in the calculation of emissions of HCl and chlorine.
--	--	21	2.2 A.1.j	Added a requirement to calculate and record facility-wide HAP emissions monthly.
30	2.2 A.2.f	22	2.2 A.2.f	Updated the CEM requirements for monitoring CO.
30	2.2 A.2.g	22	2.2 A.2.g	Updated the CEM requirements for monitoring NOx.
30	2.2 A.2.h	22	2.2 A.2.h	Updated the CEM requirements for monitoring SO_2.
--	--	23	2.2 A.2.i.	Added a requirement for volumetric monitoring for the boiler (ID No. ES-1A and ES-1B) exhaust.
30	2.2 A.3	--	--	• Removed permit condition for 15A NCAC 02D .1806. Per SL 2017-108, the Permittee is exempt from this regulation. • Renumbered the permit accordingly.
--	--	25	2.3	Added a schedule of compliance for boilers (ID Nos. ES-1A and ES-1B) to operate until they are in compliance with 15A NCAQC 02D .0530 and renumbered permit accordingly.
33	2.3	26	2.4	Updated dates for Acid Rain Permit.
35	2.5.2	26	2.6 B	Specified that 15A NCAC 02D .2400, Clean Air Interstate Rules, have expired.
36 – 46	3.0	27 – 37	3.0	Updated the General Conditions and the list of Acronyms with the most current version (Version 5.0 06/08/2017).

The following changes were made to the Title V Equipment Editor (TVEE):

- Made the diesel fired 340 hp emergency fire pump (ID No. IES-1) an insignificant activity.
- Added a poultry litter storage shed (ID No. IES-20).
- Updated description of the multiclones (ID Nos. CD-1A2 and CD-1B2).
- Removed two fuel bunkers (ID Nos. ES-2A and ES-2B) and associated control devices (ID Nos. CD-2A and CD-2B).
- Removed bottom ash silo (ID No. ES-4) and associated control device (ID No. CD-4).
- Removed wood biomass unloading/storage and transfer (ID No. ES-6).
- Removed two ash system vacuum transport pumps (ID Nos. ES-5A and ES-5B) and associated control and associated control devices (ID Nos. CD-5A through CD-5E).

- Removed fly ash silo (ID No. ES-3) and associated binvent filter (ID No. CD-3). The facility has replaced the binvent filter (ID No. CD-3) on the fly ash silo (ID No. ES-3) with a damper that releases when the silo is over pressurized.
- Corrected the capacity of the ammonia tank (ID No. ES-15) to 10,000 gallons.

5. "Part 2" Application for Emission Sources (ID Nos. ES-1A and ES-1B)

Air Permit No. 05543T21 was issued to NCRP on May 29, 2015 to modify the facility by removing coal and tire derived fuel (TDF) as fuel for the boilers (ID No. ES-1A and ES-1B) and adding poultry litter as an alternative fuel for the boilers, among other changes. The modification was listed as a 15A NCAC 02Q .0501(c)(2) modification, and the facility was required to submit a Title V Air Quality Permit Application on or before 12 months after commencing operation. The boilers restarted on July 7, 2015, and this permit requirement was fulfilled with the receipt of Air Permit Application No. 7800166.16F on July 12, 2016.

Emissions

Potential emissions from firing non-CISWI subject wood and poultry litter in the boilers (ID Nos. ES-1A and ES-1B) are provided below in Table 2. NCRP used emission factors from EPA's AP-42; testing results from firing wood and poultry litter at Duplin Bioenergy, LLC (formerly Coastal Carolina Clean Power, LLC (CCCP)), which is cogeneration facility similar to NCRP; existing BACT limits; and vendor guarantees to determine emissions from the boilers.

The DAQ conducted an analysis of available emission factors for criteria pollutants and determined that the facility used reasonable factors to calculate its emissions from the boilers. The facility did not use the maximum emission factors for the criteria pollutants, but as indicated in discussions with facility's consultant, NCRP selected emission factors that were most representative of conditions at the facility and that demonstrate compliance with BACT limits and other emission standards. Attachment 1 provides the comparison of the emission factors, the selected emission factor for each criteria pollutant, the emission calculations, and the list of references used in the emission factor analysis.

Air Permit No. 05543T21 was issued based on the boilers operating at maximum heat input of 180 million Btu/hr each and a poultry litter blend of up to 20% poultry litter/ 80% non-CISWI subject wood. These assumptions on boiler operation are no longer valid. During operation and source testing, the boilers were observed to operate above the permitted heat input of 180 million Btu/hr. Consequently, NCRP was requested to submit revised emissions rates based on a heat input of 215 million Btu/hr for each boiler. This heat input was determined to be the original rating of the boilers when they were burning coal prior to their conversion to biomass/poultry litter. Additionally, the facility intends to operate at higher percentage of poultry litter than used in the permit application (7800166.15B) for Air Permit No. 05443T21. Blends with up to 85% poultry litter are desired. NCRP submitted revised emission calculations on March 1, 2017 addressing the higher heat input and poultry level blends. The emission results are presented in the table below. Although NCRP has accepted limits on CO emissions for PSD avoidance, the facility cannot meet these limits and the facility has entered into a SOC to address these noncompliance issues as noted in Section 8 below.

Table 2 – Boiler Emissions		
Pollutant	**Before Controls/Limits (tons/yr)**	**Emissions After Controls/Limits (tons/yr)**
Criteria Pollutants		
PM[1]	1,356	67.8
PM_{10}[2]	1,130	56.5
$PM_{2.5}$[1]	414	20.7
SO_2[3]	2,109	<250
NO_X[4]	502	<250
CO[5]	452	<250* *NCRP currently cannot meet this limit
VOC[6]	56.8	56.8
Hazardous Air Pollutants		
Acetaldehyde[7]	0.15	0.15
Acrolein[7]	0.28	0.28
Benzene[7]	0.12	0.12
Chlorine[7]	3.4	3.4
Formaldehyde[7]	0.41	0.41
Hydrogen Chloride[9]	9.9	<10.0
Manganese[7]	0.14	0.14
Methylene Chloride[8]	0.55	0.55
Naphthalene[8]	0.18	0.18
Propionaldehyde[8]	0.11	0.11
Total HAPs	15.2	<25.0
Greenhouse Gases		
Total CO_2e[10, 11]	438,826 metric tons	438,826 metric tons

Notes:

1. PM and $PM_{2.5}$ emissions are based on vendor guarantees and an estimated control efficiency of the multiclones and bagfilters of 95%.
2. PM_{10} emissions are based on NSPS PM limit of 0.03 lb/million Btu, after controls. Before controls were determined based on an estimated control efficiency of the multiclones and bagfilters of 95%.
3. SO_2 emissions are based on BACT limit determined from sampling poultry litter and 80% reduction (when burning wood/litter mix) and assuming 50% furnace capture.
4. NOx emissions are based on SB3 BACT limit of 0.16 lb/ million Btu when burning wood and poultry litter. Before control emissions was determined assuming a 40% control efficiency of the SNCR for NOx.
5. CO emissions are based on SB3 BACT limit of 0.24 lb/ million Btu when burning wood and poultry litter, which was used in the "Part 1" application. NCRP estimated the potential CO emissions for this permit application on the PSD BACT limit of 0.45 lb/million Btu when burning non-CISWI subject wood. The DAQ determined this emission factor was not appropriate for potential emissions.
6. VOC emissions are based on SB3 BACT limit of 0.03 lb/ million Btu when burning wood and poultry litter.
7. Emissions from these HAPs are based on source testing conducted at CCCP on May 19 and 20, 2010. Testing was approved by DAQ via memorandum on 09/15/2010.
8. Emissions from these HAPs are based on emission factors from Chapter 1.6 "Wood Residue Combustion in Boilers" (September 2003) in EPA's AP-42.
9. NCRP back calculated from the avoidance limit of 9.9 tons per year to establish an emission factor for HCl. The facility must conduct testing to verify this emission rate, and if necessary, they will control HCl emissions via the sorbent injection system.
10. CO_2 equivalent is defined as the sum of individual greenhouse gas pollutant emission times their global warming potential, converted to metric tons.
11. CO2, CH4, and N2O emission factors, which are used to determine CO_2e emissions, are based on GHG MRR (40 CFR 98 Subpart C, amended 11/29/2013).

Table 2 – Boiler Emissions		
Pollutant	**Before Controls/Limits (tons/yr)**	**Emissions After Controls/Limits (tons/yr)**
12. Emissions are based on maximum heat capacity of 215 million Btu/hour for each boiler and a maximum poultry litter percentage of 85 %. 8760 hours of operation per year was assumed. 13. The emissions in this table do not include the emissions from startup on fuel oil, which are expected to be minimal. However, the start-up emissions are reflected in the facility-wide potential emissions shown in Table 15.		

The only emission factor that has changed since the "Part 1" significant application was submitted in 2015 is the emission factor for SO_2. According to the consultant for the facility, the previous emission factor, which was based on the proposed SB3 BACT limit, may not be valid at higher percentages of poultry litter. NCRP is proposing an SO_2 emission factor based on sulfur in the poultry litter and controls using the dry sorbent injection at the higher poultry litter percentages. The discussion of the emission factor development for SO_2 is also included in Attachment 1. It should be noted that the uncontrolled emission rate of SO_2 appears much higher than expected by the CEMs data submitted to date.

Regulatory Review

The regulatory review associated with the "Part 2" permit application is included below in Section 9.

Application Amendment

The boilers (ID Nos. ES-1A and ES-1B) are subject to 15A NCAC 02D .0504, Particulates from Wood Burning Indirect Heat Exchangers," because the DAQ considers the materials being burned (i.e. poultry litter and non-CISWI subject wood) to be wood for the purposes of 02D .0504. Emissions of particulate matter from the boilers are controlled via multiclones (ID Nos. CD-1A2 and CD1B2) and bagfilters (ID Nos. CD-1A and CD-1B). The facility is required to conduct monthly external inspections of the control devices and duct work for leaks and annual internal inspections for structural integrity to ensure compliance with 02D .0504. The facility currently must maintain appropriate pressure drop (not to exceed 10 inches of water) across each bagfilter to ensure proper operation. NCRP submitted an amendment to Air Permit Application No. 7800166.16F on September 22, 2016 to delete the requirement to monitor drop across baghouses (ID Nos. CD-1A and CD-1B).

In the application amendment, NCRP stated the baghouses can adequately control particulate matter with pressure drops as high as 15 inches of water. By limiting the pressure drop, NCRP contends the facility must remove the baghouses from service for cleaning more frequently than necessary, causing a reduced steam output. The facility estimates the loss in steam production due to unnecessary cleaning results in a loss of about 3 MW of electrical power generation from the 25 MW generator.

According to Joshua Harris, the DAQ inspector, NCRP has been concerned with the pressure drop across the bagfilters since boiler restart in July/August 2015. The facility has attributed the increased pressure drop to high moisture content in the flue gas causing the filter cake to stay in place even after the bags are pulsed leading to high differential pressure across the baghouses. However, records of pressure drop showed that after having upgraded their ash collection system, the system has been operating at ~4" of water across each baghouse, and their operators stated the same, as reported by Mr. Harris.

NCRP currently uses a COMS to measure opacity from the bagfilters as required under NSPS Subpart Db. Opacity is a commonly used parameter to demonstrate the performance of a control device. For instance, an increase in opacity can reasonably assume to indicate an increase in PM emissions, even though the magnitude of the mass emissions relative to any one opacity value or the increase in mass emissions relative to the increase in opacity is not known. The relationship between opacity and PM emissions allows for opacity to be used as a performance indicator under the Compliance Assurance Monitoring (CAM) rule[2], and NCRP uses the COMS to assure compliance with 02D .0504 under CAM.

Because the COMS is used under CAM, the requirement to measure pressure drop is no longer needed and will be removed under this permit renewal/modification. It should also be noted NCRP will still be required to conduct monthly external inspections of duct work and bagfilters and annual internal inspections of bagfilters to ensure compliance with 02D .0504.

6. Minor Modification

In Air Permit Application No. 7800166.16G, NCRP is requesting to repair its two non-CISWI subject wood/poultry litter-fired boilers (ID Nos. ES-1A and ES-1B) and modify their associated OFA systems to improve combustion. The modifications to the OFA systems include the following:

- Installation of a new Detroit Stoker Company (DSC) air swept feeder system;
- Removal of the front OFA twyers;[3]
- Removal of mechanical reinjection on the boilers, and
- Relocation of Rotating Opposed Fired Air (ROFA) fans supplying OFA air to lower floor port.

The pollutant controls on the boilers are not being changed under this permit modification. Particulate matter emission from the boilers are controlled with multiclones and bagfilters. Emissions of nitrogen oxides (NO_x) are controlled with a SNCR system, and emissions of acid gases are controlled via sorbent injection. Modifications to the OFA and boiler repair should allow for better combustion in the boilers, which is expected to reduce emissions of CO.

Boiler emissions after the modification are provided above in Table 2. NCRP will maintain avoidance limits to remain a HAP minor source after modification. The facility will also maintain its PSD avoidance limit with NO_x and SO_2. Even after the modifications to the OFA, NCRP cannot meet the CO emission limit and has entered into a SOC for noncompliance as discussed in more detail below in Section 8.

The modification of the OFA systems does not change the boilers' applicability to any regulation. The regulations applicable to the boilers are provided below, in Section 9.

[2] CAM Protocol for an ESP Controlling PM from a Coal-Fired Boiler. US EPA https://www3.epa.gov/ttnemc01/cam/espcam.pdf

[3] A twyers is a nozzle through which air is forced into the boiler.

7. 502(b)(10) Notifications

Application No. 7800166.16B
This 502(b)(10) notification was received on February 26, 2016. NCRP proposes to replace the two existing multiclones (ID Nos. CD-1A2 and CD-1B2) with two new, higher efficiency multiclones with 20, 24-inch tubes, each. NCRP will also replace the fly ash drag chains and remove the bottom ash silo (ID No. ES-4).

On October 26, 2016, NCRP submitted a complete permit application for this notification. The multiclones will be installed upstream of the bagfilters (ID No. CD-1A and CD-1B) to remove large size particles and char from the exhaust stream that pose potential hazards to the bagfliters. The multiclones will each have 20, 24-inch tubes and will have a maximum control efficiency of 95%. The multiclones were operational as of March 2016.

Application No. 7800166.16C
Poultry litter is currently being stored at the facility in an existing warehouse (ID No. IES-16). NCRP initially intended to completely enclose the warehouse under negative pressure and vent it to the boilers (ID Nos. ES-1A and ES-1B) to control odors. On March 3, 2016, NCRP submitted a 502(b)(10) notification to vent the poultry litter storage warehouse to the atmosphere rather than to the boilers.

Poultry Power USA (PPUSA) supplies poultry litter to NCRP. The poultry litter has been deemed a non-hazardous secondary material by DAQ in a letter dated March 8, 2013. The Applicability Determination concluded the following:

> *"Used poultry litter is a non-hazardous secondary material (NHSM) within the meaning of Title 40, Part 241 of the Code of Federal Regulations (40 CFR Part 241). The used poultry litter described in your correspondence referenced above will be processed by PPUSA. It meets the legitimacy criteria provided in 40 CFR 241.3. The NC DAQ has determined, therefore, that the combustion of this material would not be subject to the requirements of the Commercial and Industrial Solid Waste Incineration (CISWI) emission standard. This determination relies on the language of the recently published Federal rules defining NHSM, and 40 CFR Part 60 Subpart CCCC."*[4]

Prior to bringing the poultry litter onsite, PPUSA screens and visually examines the litter, and samples are taken to ensure that the litter meets quality standards for moisture, heat content, and contaminate level. Any ferrous metal constituents in the litter are removed, and the poultry litter is screened based on size, surface area, and density. When onsite, the poultry litter is blended with non-CISWI subject wood to achieve proper moisture and heat content for combustion. NCRP intends to fire a fuel blend up to 85% poultry litter / 15% non-CISWI subject wood in its boilers.

NCRP contends emissions from the poultry litter warehouse and handling operations are negligible, but no calculations were provided in the permit application. Lacking any data from the facility, the DAQ conducted a literature search to estimate emission factors and emission rates from storage of poultry litter. The primary source used for the search was a report from Iowa State University in 2006 that summarized available literature on the concentrations and emissions of ammonia, nitrous oxide, hydrogen sulfide, methane, non-volatile organic carbon, and dust from livestock

[4] Applicability Determination No. 2131 can be viewed at https://ncdenr.s3.amazonaws.com/s3fs-public/Air%20Quality/permits/memos/NHSM_Determination_PPUSA.pdf

and poultry buildings and manure management systems (e.g., storage and treatment units).[5] The DAQ also considered emission factors from US EPA-42 for emissions of PM from storage of wood piles and handling of dust. These operations were considered analogous to poultry litter when no other emission factors were available.

Table 3 summarizes the results of the literature search. Detailed calculations are provided in Attachment 2 to this permit review. As shown in the table, emissions from the poultry litter are considered insignificant in accordance with 15A NCAC 02Q .0503(8), and this source will remain on the insignificant activities list as part of this renewal/modification.

Table 3 – Emissions from Poultry Litter Storage

Pollutant	Emission Factor	Emissions	Reference
PM	0.01 lb/ton	1.8 tons/yr	US EPA AP-42, Chapter 13, for handling of dust piles.
NO_x	183 mg/m^2-day	0.10 tons/yr	As reported in Iowa State report. The size of the poultry litter storage warehouse was assumed to be 100 feet by 150 feet.
VOC	N/A	Negligible	The Iowa State report had no VOC data from poultry litter. The EPA indicated emissions of VOC from log piles and chip storage were non-detect, with one exception. In Table 10.6-7 limited data fir VOC was measured.
NH3	4.1 g/m^2-day	0.52 lb/hr	The TPER for NH3 is 0.68 lb/hr. NH3 emissions from poultry litter are expected to be less than TPER. The size of the poultry litter storage warehouse was assumed to be 100 feet by 150 feet.

Notes:
Emission factors from poultry waste management systems as reported in the Iowa State report were used where appropriate. Emission data for other pollutants were reported for poultry houses, with emission factors given in terms in animal units (AU) processed. These emission factors were not applicable to the poultry litter fired at NCRP and were not used in the emission calculations above.

Application No. 7800166.16H
On October 14, 2016, NCRP submitted a 502(b)(10) notification to add a new poultry litter storage shed (ID No. IES-20) to the facility. The structure will be approximately 100 feet by 150 feet. As shown in Table 3 above, emissions from the poultry litter storage shed are expected to be insignificant. This emission source meets the definition of insignificant activity by size or production rate under 15A NCAC 02Q .0503(8) and will be included on the insignificant activities list.

[5] Air Quality and Emissions from Livestock and Poultry Production / Waste Management Systems. (2006) Retrieved from http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1624&context=abe_eng_pubs.

8. Schedule of Compliance

NCRP restarted the boilers (ID Nos. ES-1A and ES-1B) on July 7, 2015 for the first time after being issued Air Permit No. 05543T21 on May 29, 2015. Under Air Permit No. 05543T21, NCRP accepted PSD avoidance limits for CO, SO_2, and NO_x and, therefore, was considered a minor source under PSD. Emissions of CO upon restart were higher than anticipated as indicated by the CEMS for CO on the boilers. Because the CO emissions approached the PSD avoidance limit, NCRP voluntarily shut down the boilers on March 7, 2016. The 12-month cumulative emissions of CO were 248.3 tons at that time.

The facility conducted numerous repairs to the boilers and control devices and undertook measures to ensure a consistent fuel supply in an effort to reduce emissions of CO. The facility also entered into a special order by consent (SOC 2016-002) that allowed the facility to restart the boilers while addressing the potential noncompliance issues with CO. SOC 2016-002 became effective on August 1, 2016. Note, the SOC-2016 also addressed other noncompliance issues at NCRP, which are discussed in the Section 18.

After repairs to the boilers, NCRP restarted the boilers (ID Nos. ES-1A and ES-1B) on August 13, 2016. During the month of August 2016, CO emissions from the boilers totaled 10.3 tons and rolling 12-month CO emissions from the facility totaled 248.2 tons. During the month of September 2016, CO emissions from the boilers totaled 46.2 tons, which resulted in a 12-month rolling total of CO emission of 263.7, in excess of the PSD avoidance limitation for CO. This exceedance triggered actions under SOC 2016-002, including a requirement that NCRP enter into a second SOC with additional requirements for compliance. This second order, SOC 2017-001, became effective on February 27, 2017.

NCRP indicated "it is not currently in compliance with all applicable requirements" in its permit applications (Form E5) and provided a compliance schedule (Form E4) for returning to compliance in accordance with 40 CFR 70.5(c)(8). Specifically, the facility indicated it will follow the special order of consent (SOC 2017-001) to return to compliance.

As required under 70.6(c)(3), the permit must include a schedule of compliance for "sources that are not in compliance with all applicable requirements at the time of permit issuance." Requirements under SOC 2017-001 will be added to the permit to enable to the facility to operate until the facility has returned to compliance. NCRP must meet the following requirements, which will be included in the schedule of compliance:

- NCRP shall have 30 days from the effective date of the SOC to submit a PSD permit application. The SOC was finalized on February 27, 2017. and the PSD permit application must be submitted by March 29, 2017. Permit Application No. 7800166.17C was received on March 29, 2017, but it was deemed incomplete because it did not include the required PSD modeling.

- NCRP must submit a CO emission report, detailing the operation of the boilers (ID Nos. ES-1A and ES-1B), fuel combusted, heat input calculations, peak rate of CO emissions (lb/mmBtu and lb/hr) as well as the total CO tonnage emissions. The CO emission report must be reported within 14 days of the end of each calendar month.

The schedule of compliance is provided as Attachment 3 to this permit review.

The SOC 2017-001 will expire upon issuance of the PSD permit to NCRP and the date the PSD permit becomes final and enforceable after all periods to appeal the issuance of the permit have expired and after all penalties accrued under SOC 2017-001 have been paid in full. The SOC 2017-001 also addresses other noncompliance issues at NCRP, which are not included in the schedule of compliance.

9. Regulatory Review

NCRP is subject to the following regulations. The permit will be updated to reflect the most current permitting language for all applicable regulations.

- 15A NCAC 02D .0504 "Particulates from Wood Burning Indirect Heat Exchangers" – This rule applies to the boilers (ID Nos. ES-1A and ES-1B) because the DAQ considers the materials being burned (i.e. poultry litter and non-CISWI subject wood) to be wood for the purposes of 02D .0504. The allowable particulate emission rate in pounds per million Btu is calculated using the following equation:

  $E_{allowable} = 1.1698 \times Q^{-0.223}$ where Q is the maximum heat input in million Btu per hour from all fuels combusted in the source.

  The allowable PM emissions as determined by this equation are 0.30 pounds per million Btu using a maximum heat input of 430 million Btu per hour (215 million Btu per hour for each boiler). This emission limit was established previously and cannot be adjusted. Per 15A NCAC 02D .0504(e), "wood burning indirect heat exchangers constructed or permitted after February 1, 1983, shall not change the allowable emission limit of any wood burning indirect heat exchanger whose allowable emission limit has previously been set."

  A particulate emission factor of 0.72 pounds per million Btu as provided in the permit application was used to determine the PM emissions from the boilers. The permit application assumed a combined control efficiency of 95% for the two multiclones (ID Nos. CD-1A2 and CD-1B2) and the two bagfilters (ID Nos. CD-1A and CD-1B). With this control efficiency, the emission rate is calculated as the following

  $E_{estimated\ actual} = E_{blend} \times (1 - \text{Control Efficiency}/100)$ where E_{blend} represents the vendor guaranteed emission factor

  $E_{estimated\ actual} = 0.72 \times (1 - 95/100)$

  $E_{estimated\ actual} = 0.036$ lb/million Btu

  With controls, the estimated actual PM emissions are calculated to be less than the allowable PM emission rate. Thus, the facility is expected to be in compliance with this rule when combusting non-CISWI subject wood and poultry litter.

  As currently specified in the permit, the facility is required to conduct inspection and maintenance of the multiclones (ID Nos. CD-1A2 and CD-1B2) and the bagfilters (ID Nos. CD-1A and CD-1B) to ensure compliance with 02D .0504 can be achieved. These requirements include monthly external inspections of the control devices and duct work for leaks and annual internal inspections for structural integrity. As noted previously, the requirement to monitor the pressure drop across the bagfilters will be removed under this permit renewal/modification. Continued compliance is anticipated.

- 15A NCAC 02D .0515 "Particulates from Miscellaneous Industrial Processes" – The drum dryer (ID No. ES-22) is subject to 02D .0515. Allowable emissions of PM are calculated from the following equation:

  $E = 4.10(P)^{0.67}$ For process weight rates less than or equal to 30 tons/hr
  $E = 55.0(P)^{0.11} - 40$ For process weight rates greater than 30 tons/hr

  For both equations:
  E = allowable emission limit for particulate matter in lb/hr; and
  P = process weight rate in tons/hr.

  Based on emission calculations provided in the application when the drum dryer was permitted, the multi-cyclone (ID No. CD-6) will provide sufficient control to comply with this rule. The facility is required to conduct monthly external inspections of the control devices and ductwork to ensure compliance with 02D .0515. Compliance is anticipated.

- 15A NCAC 02D .0516 "Sulfur Dioxide Emissions from Combustion Sources" - The boilers (ID No. are subject to this rule because they fire fuels that contain sulfur compounds. The sources are limited to a sulfur dioxide emission rate of no more than 2.3 pounds SO_2 per million Btu heat input.

  CEMs data from the facility and emission testing conducted in December 2015 are shown in the following table.

Table 4 – SO_2 Emission Factors

Data Source	Test Results	Comments
Stack test results December 20, 2015	0.000 lb/million Btu	Based on three 1-hour runs
CEMs data from December 5 – 21, 2015	0.005 lb/million Btu	Based on 15 operating days
	0.039 lb/million Btu	Highest hourly average

  The worst-case emissions measured was 0.039 pounds SO_2 per million Btu based on 30% poultry litter blend, which is much lower than the allowable emissions of 2.3 pounds SO_2 per million Btu heat input. The emission source is expected to be in compliance with 02D .0516, and no MRR is required.

  The drum dryer (ID No. ES-22) is also subject to 02D .0516. No monitoring, recordkeeping, or reporting is required when firing wood in the dryer because of the low sulfur content of the fuel. Wood is inherently low enough in sulfur that continued compliance is expected. No changes to the monitoring, recordkeeping, or reporting are required under this permit renewal.

- 15A NCAC 02D .0521 "Control of Visible Emissions" – The drum dryer (ID No. ES-22) emission sources cited below are subject to 02D .0521. The drum dryer was manufactured after July 1, 1971 and must not have visible emissions of more than 20 percent opacity when averaged over a six-minute period, except as specified in 15A NCAC 02D .0521(d). NCRP must make visible observations every week to ensure compliance with 02D .0521. The permit will also be updated to reflect the most current permitting language, and continued compliance is expected. Compliance is anticipated.

Note that boilers (ID Nos. ES-1A and ES-1B) are not subject to 02D .0521 because they are subject to the opacity limit under NSPS Subpart Db.

- 15A NCAC 02D .0524 "New Source Performance Standards (NSPS)" – With the addition of poultry litter as an alternative fuel, the boilers (ID Nos. ES-1A and ES-1B) became subject to "New Source Standards for Industrial-Commercial-Institutional Steam Generating Units," 40 CFR 60 Subpart Db. More discussion on NSPS is provided in Section 10.

- 15A NCAC 02D .0611 "Monitoring Emissions from Other Sources" – This rule is a general-purpose requirement to operate control devices and associated monitoring equipment. Generally, these requirements are incorporated into a permit elsewhere, and a specific reference to 02D .0611 is not included. However, because NCRP plans to operate an oxidizer for VOC control on the drum dryer (ID No. ES-22) and there are no specific VOC regulations, a permit condition of 02D .0611 is required to enforce control device operating requirements. Compliance is anticipated.

- 15A NCAC 02D .1100, Control of Toxic Air Pollutants – This rule is state enforceable only. The facility controls emissions of NO_x using a non-catalytic reduction system that requires aqueous ammonia. The aqueous ammonia storage tank (ID No. ES-15) is subject to 02D .1100 for ammonia. See Section 16 for further discussion on NC Air Toxics.

- 15A NCAC 02D .1111 "Maximum Achievable Control Technology (MACT)" – NCRP has accepted an avoidance condition to be classified as an area source of HAPs. As an area source, the boilers are subject to the "NESHAP for Areas Sources: Industrial, Commercial, and Institutional Boilers," 40 CFR 63 Subpart JJJJJJ (also referenced as GACT 6J). More discussion on GACT is provided in Section 11.

- 15A NCAC 02D .0530 "Prevention of Significant Deterioration" – NCRP previously triggered BACT analyses for firing coal and, later, for firing non-CISWI subject wood in the boilers. The BACT limits for coal was previously removed when coal was removed as a permitted fuel for the boilers. The BACT limits for non-CISWI subject wood will remain in the permit. More discussion on PSD and BACT is provided Section 12.

- 15A NCAC 02D .0614 "Compliance Assurance Monitoring" – The boilers are subject to CAM. More discussion on CAM is provided in Section 14.

- 15A NCAC 02Q .0317, "Avoidance Conditions" – NCRP has accepted facility-wide avoidance conditions for the following regulations:
  - 15A NCAC 02D .1111, Maximum Achievable Control Technology – The permit currently limits emissions of any single HAP to less than 10 tons per year and to less than 25 tons per year for any combination of HAPs for avoidance of becoming a Title III major facility. More discussion on MACT avoidance is found in Section 11.
  - 15A NCAC 02D .0530, Prevention of Significant Deterioration – NCRP has accepted avoidance limits to emit less than 250 tons per consecutive 12-month period for CO, NO_x, and SO_2. Results from CEMS for CO have shown that the facility cannot meet the 250 tpy avoidance limit for CO. A schedule of compliance will be added to the permit under this renewal/modification allowing the facility to continue operation until a PSD application is submitted and the subsequent PSD permit is issued. The facility will be required to follow a

schedule of compliance. More discussion on PSD avoidance and the schedule of compliance is found in Section 12.

- 15A NCAC 02Q .0400, "Acid Rain Procedures" – The boilers at NCRP are currently subject to the Acid Rain Program. See Section 15 for more discussion on the Acid Rain Permit.

- 15A NCAC 02Q .0504, Option for Obtaining Construction and Operation Permit" – NCRP is required to submit a TV permit application within 12 months of commencing operation of the drum dryer (ID No. ES-22). Because the drum dryer has not yet been constructed nor is operational, this requirement will remain in the permit.

- 15A NCAC 02Q .0711 "Emission Rates Requiring a Permit" - This rule is state enforceable only. Requirements were added to the permit under 02Q .0711 with the permitting of the drum dryer (ID No. ES-22). See Section 16 for further discussion on NC Air Toxics.

- Senate Bill 3 (Session Law 2007-397) – The permit currently includes SB3 limits for burning non-CISWI subject wood only in the boilers, as show in the table below.

Table 5 – SB3 BACT Emission Limits

Emission Source	Pollutant	Emission Limits	Control Technology
Boilers (**ID Nos. ES-1A and ES-1B**)	PM/PM_{10}	0.036 lb/million Btu (both filterable and condensable) [stack test: 3-run average]	multiclone and bagfilter
	$PM_{2.5}$	0.011 lb/million Btu (both filterable and condensable [organic and inorganic including sulfuric acid mist]) [stack test: 3-run average]	multiclone and bagfilter
	Sulfur dioxide	0.025 lb/million Btu [CEM: 30-day rolling average]	use of low sulfur wood
	Nitrogen oxides	0.125 lb/million Btu [CEM: 30-day rolling average]	selective non-catalytic reduction
	Volatile organic compounds	0.03 lb/million Btu [stack test: 3-run average]	good combustion control
	Mercury	5×10^{-6} lb/million Btu [stack test: 3-run average]	Bagfilter

As required under Section 2.1 A.7.b of the current air permit, NCRP is required to conduct source testing to verify compliance with the SB3 BACT limits when burning non-CISWI subject wood within by testing one of boilers (ID Nos. ES-1A and ES-1B) within 180 days of commencement of burning of non-CISWI subject wood exclusively in the first boiler. The required stack testing was conducted during the period of December 15 – December 30, 2015, with subsequent testing performed on February 11, 2016. The results of the testing are provided in the table below. As shown in the table, the facility ultimately tested in compliance with the SB3 BACT emission limits for non-CISWI subject wood.

Table 6 – Source Testing for SB3 BACT Limits				
Pollutant	**Test Date**	**Test Results**	**Emission Limit**	**Compliance**
PM/PM_{10}	12/18/2015	0.035 lb/million Btu	0.036 lb/million Btu	Yes
$PM_{2.5}$	12/18/2015	0.032 lb/million Btu	0.011 lb/million Btu	No
SO_2	12/20/2015	0.000 lb/million Btu	0.025 lb/million Btu	Yes
NO_x	12/17/2015	0.107 lb/million Btu	0.125 lb/million Btu	Yes
VOC	12/17/2015	0.001 lb/million Btu	0.03 lb/million Btu	Yes
Hg	12/19/2015	1.5×10^{-8} lb/million Btu	5×10^{-6} lb/million Btu	Yes
PM/PM_{10}	2/11/2016	0.012 lb/million Btu	0.036 lb/million Btu	Yes
$PM_{2.5}$	2/11/2016	0.011 lb/million Btu	0.011 lb/million Btu	Yes
Notes: The source test report was reviewed and approved in a memorandum from Gary Saunders of the Stationary Source Compliance Branch (SSCB) on June 23, 2016.				

The original SB3 BACT limits contained a provisional value for SO_2, which had to be confirmed or reestablished via source testing. Section 2.1 A.7.c and d of the current permit requires the facility to establish the SB3 BACT limit for SO_2 when firing non-CISWI subject wood only based on representative stack test data, continuous CEMS data for SO_2, boiler operational data, and fuel sulfur content data. On April 4, 2016, the facility submitted a permit modification meeting this permit requirement. The table below presents a summary of the data to establish the SB3 BACT limit for SO_2.

Table 7 – Data for Establishing SO_2 BACT Limit		
Data Source	**Test Results**	**Comments**
SB3 BACT limit for SO_2	0.025 lb/million Btu	On a 30-day rolling average
Stack test results December 20, 2015	0.000 lb/million Btu	Based on three 1-hour runs
CEMs data from December 5 – 21, 2015	0.005 lb/million Btu	Based on 15 operating days
	0.039 lb/million Btu	Highest hourly average
Fuel sampling data December 7, 14, 21, and 28, 2015	0.190 lb/million Btu	Based on 4 samples
	0.320 lb/million Btu	Highest individual sample

Based on the data presented above, NCRP proposes that the provisional SO_2 emission limit of 0.025 lb/mm Btu on a 30-day rolling average be the final BACT limit. Although this value is less than the sampling analysis, the results of the source test and CEMs data indicate the sulfur content of the fuel is not being emitted as SO_2 after combustion. The DAQ concurs with NCRP's proposed limit. The permit will be updated under this renewal/modification to remove the requirements to establish the SB3 BACT limit for SO_2 for non-CISWI subject wood, as this requirement has been fulfilled.

NCRP submitted a BACT analysis to DAQ on March 19, 2015 for the firing of non-CISWI subject wood/poultry litter blends in boilers (ID Nos. ES-1A and ES-1B). The SB3 BACT analysis considered possible controls for NO_x, PM_{10}, $PM_{2.5}$, SO_2, CO, VOC, sulfuric acid mist, and mercury. The facility proposed the SB3 BACT controls and emission limits shown in the following table for the individual pollutants.

Table 8 – SB3 BACT for non-CISWI Subject Wood/Poultry Litter Blends		
Pollutant	**Emission Limit When burning Non-CISWI subject wood and Poultry Litter Mix**	**Control Technology**
PM/PM_{10}	0.036 lb/million Btu (both filterable and condensable) [stack test: 3-run average]	Multiclone and bagfilter
$PM_{2.5}$	0.011 lb/million Btu (both filterable and condensable [organic and inorganic including sulfuric acid mist]) [stack test: 3-run average]	Multiclone and bagfilter
SO_2	0.07 lb/million Btu [CEM: 30-day rolling average]	Use of low sulfur wood
NO_x	0.16 lb/million Btu [CEM: 30-day rolling average]	Selective non-catalytic reduction
VOC	0.03 lb/million Btu [stack test: 3-run average]	Good combustion control
CO	0.24 lb/million Btu [CEM: 30-day rolling average]	Good combustion control
H_2SO_4 mist	0.031 lb/million Btu [stack test: 3-run average]	Use of low sulfur wood
Hg	5×10^{-6} lb/million Btu [stack test: 3-run average]	Bagfilter

Upon determination of SB3 BACT, the DAQ will reopen the permit for inclusion of SB3 BACT limits for firing non-CISWI subject wood/poultry litter blend blends in boilers. Placeholder language will remain in the permit until that time.

- 40 CFR Part 97, Subparts, AAAAA, BBBBB, and CCCCC, Cross State Air Pollution Rule [CSAPR] – The boilers at NCRP were previously subject to the 15A NCAC 02D .2400, "Clean Air Interstate Rules" (CAIR). When this rule expired on February 1, 2016, the DAQ reopened the permit to remove references to CAIR and replace them with CSAPR. Air Permit No. 05543T23 was issued on March 28, 2016 with the CSAPR rules. These rules are federally-enforceable only, and continued compliance is anticipated.

- NCGS 143-215.108(c) – The facility is required to establish VOC emission rates from the belt dryers (ID Nos. ES-17, ES-18, ES-19, and ES-21) and the drum dryer (ID No. ES-22) by conducting source testing within 180 days of startup. NCRP has not yet installed these dryers, and this condition will remain in the permit.

On July 12, 2017, amendments to certain agricultural rules in NC were signed into law (SL 2017-108). One of these amendments exempts "any facility that stores products that are (i) grown, produced, or generated on one or more agricultural operations and (ii) 'renewable energy resources,' as defined in G.S. 62-133.8(a)(8)" from the requirements of 15A NCAC 02D .1806, "Control and Prohibition of Odorous Emissions." A renewable energy resource, as defined in G.S 62-133.8(a)(8), includes animal waste used to produce electricity at a retail electric customer's facility. Poultry litter used as fuel for the boilers (ID Nos. ES-1A and ES-1B) at NCRP meets this definition of a renewable energy resource. As such, NCRP is exempt from 15A NCAC 02D .1806, and the exemption is effective immediately in accordance with SL 2017-108. The permit condition for 15A NCAC 02D .1806 will be removed from the permit under this renewal/modification.

10. NSPS

The boilers (ID Nos. ES-1A and ES-1B) at NCRP are subject to "Industrial-Commercial-Institutional Steam Generating Units," 40 CFR 60 Subpart Db. This regulation applies to steam generating units that commence construction, modification, or reconstruction after June 19, 1984 and have a heat input capacity of greater than 100 million Btu per hour. Although the boilers (ID Nos. ES-1A and ES-1B) were constructed prior to this date, they become applicable to NSPS Subpart Db when they were modified to burn poultry litter as a fuel. The permit review for Air Permit No. 05543T21 issued on May 29, 2015 provides more detail on how NSPS was triggered for these boilers.[6]

Emission limits for wood-fired units under NSPS Subpart Db are provided in the following table and requirements under this rule are discussed below.

Table 9 – NSPS Emission Limits	
Pollutant	**NSPS Emission Limit**
Particulate Matter	0.030 lb/million Btu (filterable)
Opacity	20%, except no more than one 6-minute period of no more than 27%
SO_2	No applicable emission limit
NO_x	No applicable emission limit. NCRP will fire only a small amount of fuel oil at startup and is limited to no more than 500 gallons of fuel oil per year.

Standard for Particulate Matter and Opacity

The facility is subject to a federally enforceable PM limit of 0.030 pounds per million Btu for filterable particulate matter as required by 40 CFR 60.46b(h)(1). On and after the date on which the initial performance test is completed, NCRP cannot discharged into the atmosphere any gases that exhibit greater than 20% opacity (6-minute average), except for one 6-minute period per hour of not more than 27% opacity, per 40 CFR 60.43b(f). The PM emission standard and opacity limit apply at all times except during periods of startup, shutdown, or malfunction, per 40 CFR 60.43b(g).

NCRP was required to conduct an initial performance test for PM for compliance with NSPS Subpart Db within 60 days after achieving the maximum production rate while firing poultry litter in the boilers, but not later than 180 days after initial firing of poultry litter in the boilers. The facility conducted PM emission testing in December 2016, as shown in the table below. The initial testing demonstrated compliance with the PM emission limit under NSPS Subpart Db.

Table 10 – Source Testing for PM Emissions					
Test Date	**Testing Conditions**	**Test Results**	**Emission Limit**	**Regulation**	**Compliance**
12/22/2016	30% poultry litter/ 70% non-CISWI subject wood ES-1A and ES-1B tested	0.011 lb/mmBtu	0.030 lb/mmBtu	40 CFR 60 Subpart Db	Yes
Notes: Testing occurred on December 22, 2016 and source test report reviewed and approved in a memorandum from Brent Hall of the SSCB on February 20, 2017.					

In the initial permit application, NCRP indicated the poultry litter would be up to 20% of the feed to the boilers. Since that time, the facility indicated that it may use a poultry litter blend up to 85% poultry litter. For this reason, the permit condition will be updated under this permit renewal/modification to add

[6] Betty Gatano (05/29/2015).

incremental testing at 50%, 70%, and 90% poultry litter to ensure that the NCRP can maintain compliance with the PM emission limit under NSPS Subpart Db over the range of poultry litter blends.

Because the boilers will also be subject to an opacity standard under 40 CFR 60.43b, NCRP is required to install, calibrate, maintain, an operate a COMS to ensure compliance with the PM emission limit. Continued compliance with the opacity limit under NSPS Subpart Db is anticipated.

Standard for Sulfur Dioxide

The SO_2 emission limit under NSPS Subpart Db is not applicable to combustion of biomass fuels, per 40 CFR 60.42b (k)(1), which states that the SO_2 emission limit is applicable only to units that "combust coal, oil, natural gas, a mixture of these fuels, or a mixture of these fuels with any other fuels."

NCRP will also fire a limited amount of No. 2 fuel oil in the boilers during startup. Units that fire this fuel are not subject to the SO_2 emission limit under NSPS Subpart Db, per 40 CFR 60.42b (k)(2), which exempts fuels with potential SO_2 emission rate of 0.32 pounds per million Btu heat input or less from the SO_2 emission limit.

Standard for Nitrogen Oxides

As specified under 40 CFR 63.44b(c), the NO_x standard does not apply to facilities that limit the use of "coal, oil, natural gas (or any combination of the three)" to an annual capacity factor of 10% (0.10) or less. This limit must also be included as federally enforceable requirement in the permit. No. 2 fuel oil is used for startup but limited to 500 gallons per year, and this limit is included as part of the PSD avoidance condition. Because NCRP is limited to firing only 500 gallons of No. 2 fuel oil per year – which is much, much less than the 10% annual capacity factor for fossil fuels – the facility is not subject to the NO_x emission limit, per 40 CFR 60.44b(c).

11. NESHAPS/MACT/GACT

NCRP has accepted permit conditions to limit emissions to less than 10 tons per year for any single HAP and to less than 25 tons per year for any combination of HAPs. With these limits, the facility is considered an area source (minor source) of HAP emissions. Hydrogen chloride (HCl) and chlorine are the largest HAPs emitted from the boilers. The facility maintains emissions of these HAPs using low chlorine wood. If necessary, emissions of acid gases can be controlled with two dry sorbent injection systems (ID Nos. CD-1A4 and CD-1B4) that will inject either trona or sodium bicarbonate in the flue gas exhaust from the boilers. The control efficiency of the sorbent injections is expected to be 80% to 95% for acid gases such as HCl. NCRP has not yet required the use of the sorbent systems.

NCRP was required to conduct a stack test within 180 days of startup to verify emissions of HCl and chlorine and to establish operating parameters for the sorbent injection systems, if necessary. Source testing for these limitations was conducted on December 22, 2016, and the results are presented in Table 11 below. Because the sorbent injection systems were not required during testing, the operating parameters have not yet been established.

Table 11 – Source Testing for HAP Emissions				
Pollutant	**Test Results**	**Emission Limit**	**Regulation**	**Compliance**
HCl	0.00064 lb/mmBtu	0.00663 lb/mmBtu	15A NCAC 02Q .0317 15A NCAC 02D .1111	Yes
Cl_2	<6.83E-06 lb/mmBtu	1.8E-03 lb/mmBtu	15A NCAC 02Q .0317 15A NCAC 02D .1111	Yes
Notes: Testing occurred on December 22, 2016 and source test report reviewed and approved in a memorandum from Brent Hall of the SSCB on February 20, 2017.				

Testing was conducted with 30% poultry litter and 70% non-CISWI subject wood. The permit will be updated to add incremental testing at 50%, 70%, and 90% poultry litter to ensure that the HAP avoidance limits can be met over the range of poultry litter blends.

As a minor source of HAPs, the General Available Control Technology (GACT) regulations apply to NCRP as discussed in this section

GACT Subpart 6J

Because the facility is a minor source of HAP emissions, the non-CISWI subject wood/poultry litter-fired boilers (ID Nos. ES-1A and ES-1B) are subject to the "NESHAP for Area Sources: Industrial, Commercial, and Institutional Boilers," 40 CFR 63 Subpart JJJJJJ (aka GACT Subpart 6J). The boilers were constructed prior to June 4, 2010 and are considered existing boilers under this rule. Additionally, the boilers fall in the biomass subcategory under the rule, which "includes any boiler that burns any biomass and is not in the coal subcategory."

Existing biomass boilers do not have emission standards, but they do have work practice standards under GACT Subpart 6J, including biennial tune-ups and a one-time energy assessment. The compliance date for the one-time energy assessment was due by March 21, 2014, as specified in 40 CFR 63.11196(1)(3). Lumberton Energy, LLC (the former owners) completed the one-time energy assessment on April 17, 2014.

The boilers (ID Nos. ES-1A and ES-1B) did not operate between the effective date of 40 CFR 63 Subpart JJJJJJ and the compliance date of March 21, 2014. In accordance with 40 CFR 63. 63.11210(k)(2), NCRP was required to complete the initial performance tune-up, no later than 30 days after the re-start of the affected boiler. Boiler ES-1B was restarted on July 7, 2015 but was not able to sustain operation. Boiler ES-1B ran for approximately 3 hours on August 11, 2015 and boiler ES-1B was test fired during the week of August 17, 2015. The turbine on the generator then broke preventing the facility from conducting the tune-up within 30 days of these dates. The FRO allowed the facility to conduct the tune-ups as soon as practicably possible after startup of the boilers following the turbine repairs. Boiler ES-1B was restarted on September 18, 2015 and the tune-up was completed that same day. Similarly, boiler ES-1A was restated and the tune-up completed on September 24, 2015. The next tune-up for these boilers are required no more than 25 months after these dates. Continued compliance is anticipated.

GACT Subpart ZZZZ

The diesel-fired emergency fire pump (ID No. IES-1) is subject to the "NESHAP for Stationary Reciprocating Internal Combustion Engines," 40 CFR 63 Subpart ZZZZ. This engine is a compression ignition, existing engine, constructed before June 12, 2006. It is less than 500 HP and is located at a minor source of HAPs. The following is a summary of the requirements for this engine.

- Install a non-resettable hour meter on the engine
- Change oil and filter every 500 hours of operation or annually
- Inspect all hoses and belts every 500 hours of operation or annually and replace if necessary
- Inspect air cleaner every 1,000 hours of operation or annually
- Operate no more than 100 hours for maintenance and readiness testing
- Recordkeeping and reporting requirements

The fire pump will be moved to the insignificant activities list under this permit renewal/modification because this emission source meets the definition of insignificant activity because of size or production under 15A NCAC 02Q .0503(8). However, the facility is expected to remain in compliance with GACT Subpart ZZZZ.

12. PSD

Robeson County is designated as in attainment. NCRP was a PSD major source when coal was burned as fuel in its boilers, and the facility has previously undergone PSD analyses and accepted BACT limits for several of its sources. With the removal of coal as fuel source under Air Permit No. 05543T21, NCRP accepted avoidance limits for NO_x, CO, and SO_2, to become PSD minor. The facility is required to use CEMS data to verify compliance with the PSD avoidance limits. As noted above in Section 8, CEMS data for CO emissions indicates the facility cannot meet the avoidance limit for CO. The facility will return to a PSD major with the issuance of this permit, and a schedule of compliance will be included in the permit allowing the facility to operate until a PSD permit is issued to NCRP.

BACT Limits

NCRP submitted permit application No. 7800166.10A on August 17, 2010 requesting to burn non-CISWI subject wood in its boilers (ID Nos. ES-1A and ES-1B). The proposed modifications also included changes to the facility's fuel handling and fuel feed systems to accommodate the biomass fuel; installation of multiclones, selective non-catalytic reduction systems and sorbent injection systems; modifications to over-fire air systems and baghouses; and the addition of an ammonia storage tank.

Prior to the removal of coal, TDF, natural gas, and fuel oil from the permit, the boilers at the facility were considered fossil-fuel fired boilers under the PSD regulations. Fossil fuel-fired boilers (or combination thereof) totaling more than 250 million Btu per hour heat input are one of 28 named source categories under PSD that are considered major stationary sources if they emitted or have the potential to emit 100 tons per year or more of any regulated NSR pollutant. As a major PSD facility, the modification under permit application No. 7800166.10A triggered a PSD BACT analysis because increases in emissions of CO and sulfuric acid (H_2SO_4) exceeded the PSD significance thresholds of 100 tons per year and 7 tons per year, respectively. Based on the PSD analysis,[7] DAQ approved BACT limits for non-CISWI subject wood for emissions of CO and H_2SO_4 from wood-fired boilers, as shown in Table 12 below. These limits were incorporated into Air Permit No. 05543T18 issued on February 14, 2012.

[7] Rahul Thaker (01/11/2012).

Table 12 – PSD BACT Limits for Non-CISWI Subject Wood			
Emission Source	**Pollutant**	**Emission Limits**	**Control Technique**
Boilers (ID Nos. ES-1A and ES-1B)	CO	0.45 lb/million Btu [stack test: 3-run average]	good combustion control
	H_2SO_4	0.011 lb/million Btu [stack test: 3-run average]	use of low sulfur wood

As required under Section 2.1 A.7.b of the current air permit, NCRP must conduct source testing to verify compliance with the PSD BACT limits when burning non-CISWI subject wood by testing one of boilers (ID Nos. ES-1A and ES-1B) within 180 days of burning non-CISWI subject wood exclusively in the first boiler. The required stack testing was conducted during the period of December 15 – December 30, 2015, with subsequent testing performed on February 10, 2016. The results of the testing are provided in the Table 13. As shown in the table, the facility ultimately tested in compliance with the PSD BACT emission limits.

Table 13 – Source Testing for PSD BACT Limits for Non-CISWI Subject Wood				
Pollutant	**Test Date**	**Test Results**	**Emission Limit**	**Compliance**
CO	12/17/2015	0.23 lb/million Btu	0.45 lb/million Btu	Yes
Sulfuric Acid Mist	12/17/2015	0.72 lb/million Btu	0.011 lb/million Btu	Not Indicated: Sample thought to be contaminated
Sulfuric Acid Mist	2/10/2016	0.0004 lb/million Btu	0.011 lb/million Btu	Yes
Notes: The source test report was reviewed and approved in a memorandum from Gary Saunders of the SSCB on June 23, 2016.				

The permit condition requiring testing for compliance with the PSD BACT limits will be removed under this permit renewal/modification because compliance was demonstrated. Although the permit contains no MRR requirements to demonstrate compliance with the BACT limit, the condition will remain in the permit because NCRP continues to fire non-CISWI subject wood. Continued compliance is anticipated.

PSD Avoidance Condition

Although the boilers fire a small amount of No. 2 fuel, they are not considered fossil fuel-fired under PSD. As defined under 40 CFR 51.100, a fossil fuel-fired steam generator "means a furnace or boiler used in the process of burning fossil fuel *for the primary purpose of producing steam by heat transfer*" [emphasis added]. The permit limits the use of No. 2 fuel oil to 500 gallons per year, only during startup of the boilers. The permit also specifies no electricity can be generated while firing No. 2 fuel oil in the boilers. With these permit limitations on the firing of No. 2 fuel oil, the boilers are not considered fossil fuel-fired boilers under PSD despite the small amount of No. 2 fuel oil used during startup.

The boilers are also no longer named sources under PSD because they are not considered fossil fuel-fired. They now fall into the general category of major stationary sources under PSD, which are stationary sources that emit or have the potential to emit 250 tons per year or more of a regulated NSR pollutant.

NCRP accepted avoidance limits for NO_x, SO_2, and CO to ensure emissions of these pollutants do meet or exceed 250 tons per year under Air Permit No. 05543T21. The potential emissions for

sulfuric acid mist, $PM/PM_{10}/PM_{2.5}$, and VOC are below 250 tons per year. With enforceable avoidance limits in the permit and other criteria pollutants below PSD threshold levels, NCRP was considered a minor source under PSD with the issuance of Air Permit No. 05543T21 on May 29, 2015.

Various controls and work practices are used to ensure that these avoidance limits are met. Each boiler is equipped with a SNCR system (ID Nos. CD-1A3 and CD-1B3), with an estimated 300 pounds per hour of aqueous ammonia injection for NO_x control. The control efficiency of NO_x for these systems is estimated at 40%. If controls are required for SO_2 to meet the avoidance limits, two dry sorbent injection systems (ID Nos. CD-1A4 and CD-1B4) will be used to inject either trona or sodium bicarbonate in the flue gas exhaust between the multiclones and the bagfilters. Good combustion practices are used to minimize emissions of CO.

To demonstrate compliance with the avoidance limits for NO_x, SO_2, and CO, NCRP monitors the emissions from the boilers by installing and operating CEMS at the common boiler stack (Stack ID No. EP-1). The CEMS for NO_x and SO_2 are operated and maintained as required under 40 CFR Part 75. The current permit mistakenly requires the CO CEMS to be operated and maintained in accordance 40 CFR Part 75, even though CO is not a regulated pollutant under 40 CFR Part 75. The permit will be clarified under this permit renewal/modification to specify that CO CEMS must be operated and maintained as required under 40 CFR Part 60. Missing data for CO must be filled in accordance with DAQ procedures.

As noted above in Section 8, CEMS data for CO emissions indicates the facility cannot meet the avoidance limit for CO. The facility will return to a PSD major with the issuance of this permit and a schedule of compliance will be included in the permit allowing the facility to operate until a PSD permit is issued to NCRP. The facility must calculate monthly emissions and 12-month rolling total emissions using the CEMS data and must compare the totals against the PSD avoidance limits for CO, SO_2, and NO_x. Compliance with the avoidance limits with SO_2 and NO_x limits are anticipated. NCRP is not in compliance with avoidance limit for CO, but it is expected to be meet the schedule of compliance.

13. 112(r)

The facility is not subject to Section 112(r) of the Clean Air Act requirements because it does not store any of the regulated substances in quantities above the thresholds in the Rule. Although the facility will use and store aqueous ammonia, only concentrations of aqueous ammonia 20% or greater are subject to 112(r). The aqueous ammonia stored at the facility will have a maximum ammonia concentration of 19%, and thus, NCRP is not subject to 112(r).

14. CAM

40 CFR Part 64 is applicable to any pollutant-specific emission unit, if the following three conditions are met:

- the unit is subject to any (non-exempt: e.g. pre November 15, 1990, Section 111 or Section 112 standard) emission limitation or standard for the applicable regulated pollutant.
- the unit uses any control device to achieve compliance with any such emission limitation or standard.
- the unit's precontrol potential emission rate exceeds either 100 ton per year (for criteria pollutants) or 10/25 tons per year (for HAPs).

Table 14 below provides a summary of the applicable regulations and control devices for the boilers at NCRP. As indicated in the table, the multiclones and bagfilters are subject to CAM. No other emission sources at NCRP are subject to CAM.

Table 14 – CAM Analysis

Emission Source ID No.	Pollutant	Control Device ID No.	Applicable Emission Standard (Pollutant)	Estimated Potential Uncontrolled Emissions (tpy)	CAM Required?
ES-1A and ES-1B	PM	CD1A2 and CD1B2 & CD-1A4 and CD-1B4	02D .0504	1,356	Yes – Permit currently contains a CAM condition for PM10. No changes are required under this permit modification.
	NO_x	CD-1A3 and CD-1B3	02Q .0317 for avoidance of 02D .0530	503	No – The SNCR controls are used to comply with the PSD avoidance limit for NO_X.
	SO_2	CD-1A4 and CD-1B4	02Q .0317 for avoidance of 02D .0530	2,109	No – The dry injection system will be operated as needed, to comply with the PSD avoidance limit for SO_2.
	HCl	CD-1A4 and CD-1B4	02Q .0317 for avoidance of 02D .1111	9.9	No – The SNCR controls will be operated as needed, to comply with the MACT avoidance limit.
Notes: Emissions reported above were provided in the revised emissions rates submitted on March 1, 2017.					

NCRP has elected to use COMS to measure opacity to assure compliance with CAM. During this permit review, questions were raised regarding the use of 3-hour block averages for the opacity data measured by the COMS. Samir Parekh provided background on the use of this averaging period. According to Mr. Parekh, compliance with a PM emission standard is generally based on a 3-hr stack testing (i.e., 3, 1-hr test runs) when PM CEMS are not used. Therefore, the DAQ has routinely accepted CAM plans for PM with the language similar to "a 3-hour block average value of opacity greater than 12 percent," provided the facility has good historical data indicating the correlation between opacity and the PM during stack testing. In the absence of test data and good correlation, the DAQ uses a conservative approach, where the opacity indicator is a six-minute average.

The 3-hour block average is calculated by averaging the 30, six-minute opacity average readings in a 3-hour period. Therefore, there will be eight period of 3-hour block average in a day (midnight to midnight). When the facility cannot provide data for any 3-hour block, it is reported as monitor downtime in the quarterly/semi-annual excessive emission reports and reviewed in line with good operation and maintenance practices for the COMS.

The CAM condition will be updated under this permit modification to clarify requirements for the COMS. NCRP has experienced excess downtime of their COMS when the facility was initially restarted in July/August 2015. This issue has continued and is being addressed by the facility and the Compliance Measurement Branch of the DAQ.

15. Acid Rain Permit

The boilers (ID Nos. ES-1A and ES-1B) at NCRP are currently subject to the Acid Rain Program in accordance with 40 CFR 72 and 15A NCAC 02Q .0400. Even though the boilers no longer burn coal, natural-gas, or fuel-oil, (except for the small amount during startup), the boilers are still considered fossil-fuel fired boilers under the Acid Rain Program. As specified in 40 CFR 72.2, fossil fuel-fired "means the combustion of fossil fuel or any derivative of fossil fuel, alone or in combination with any other fuel, *independent of the percentage of fossil fuel consumed in any calendar year* (expressed in mmBtu)" [emphasis added]. This definition is not found in the PSD regulations under 40 CFR Part 51, and thus, the boilers are NOT considered fossil fuel-fired boilers under PSD.

NCRP submitted application forms to renew the existing Acid Rain permit (part of current Title V permit) on January 27, 2017. Thus, the existing Acid Rain permit can be renewed for five years. The effective and expiration dates of renewed Acid Rain permit will be aligned with the effective and expiration dates of the renewed Title V permit.

As specified in in 40 CFR 76.1(a), the affected units (ID Nos. ES-1A and ES-1B) are not subject to a NO_X emission limitation under 40 CFR Part 76 because they are not subject to an Acid Rain emissions limit for SO_2 under Phase I or Phase II of the Clean Air Act. The renewal application for Acid Rain permit does not change this conclusion.

16. Facility Wide Air Toxics

North Carolina G.S. 143-215.107(a) exempts certain emission sources subject to federal regulations – including sources subject to MACT/GACT standards – from NC air toxics regulations provided their emissions do not "present an unacceptable risk to human health," in accordance with G.S. 143-215. 107(b) as codified on May 1, 2014. An air toxics evaluation was performed as part of the permit review for Air Permit No. 0553T21, and the evaluation demonstrated the modification to the boilers to add poultry litter as a permitted fuel posed no unacceptable risk to human health. The modeled permit limits for the boilers and the fire pump were also removed at that time because these emission sources are subject to GACT standards and were shown to pose no unacceptable risk to human health. The limits for the ammonia storage tank remain in the permit, as this emission source is not subject to any MACT or GACT standards. The permit review in support of Air Permit No. 05543T21 details the air toxics evaluation.[8] No changes under this permit renewal/modification are required, and continued compliance is anticipated.

NCRP demonstrated emissions of benzene, benzo(a)pyrene, formaldehyde, hexane, and toluene were lower than their associated Toxic Emission Permitting Rates (TPERS) when the drum dryer was added to the permit under Air Permit No. 05543T24. No changes to the 02AQ .0711 condition are required under this permit renewal/modification, and continued compliance is anticipated.

17. Facility Emissions Review

Facility-wide emissions are provided in Table 15. Actual emissions from 2011 to 2015 are provided in the header of this permit review. The facility was not in operation during most of that period, but restarted on July 7, 2015.

[8] Betty Gatano (05/29/2016)

Table 15 – Facility-Wide Potential Emissions		
Pollutant	**Projected Maximum Actual Emissions (tons/yr)**	**Potential Emissions (tons/yr)**
$PM/PM_{10}/PM_{2.5}$	61.5	72
SO_2	211.7	<250
NO_X	211.7	<250
CO	368	<250* *NCRP cannot meet this emission limit
VOC	48.4	57
Largest HAP (Hydrogen Chloride)[9]	8.4	<10.0
Total HAPs	21.2	<25.0
Total CO_2e	373,000 metric tons	438,826 metric tons

Notes:

- Emissions are based on maximum heat capacity of 215 million Btu/hour for each boiler and a maximum poultry litter percentage of 85 %.
- 8760 hours of operation per year were assumed for potential emissions. Projected maximum actual emissions assume 85% of the operating time or ~7450 hours per year.
- Protected actual emissions of SO_2 and NO_x were based on the PSD avoidance limit and assuming 85% of the operating time per year.
- Projected actual emissions of CO are based on an emission factor of 0.23 lb/mm Btu as measured during the December 2015 testing at 30% poultry litter and assuming 85% of the operating time per year. This value differs than the value provided in the permit application.

18. Compliance Status

Joshua Harris of FRO conducted a partial compliance inspection at the facility on December 22, 2016, and the facility appeared to be in compliance for the emission sources evaluated. A follow up inspection will be conducted within six months to complete the full compliance evaluation at the facility.

A signed Title V Compliance Certification (Form E5) indicating that the facility was NOT in compliance with all applicable requirements was included with the permit renewal. A schedule of compliance will be added to the permit under this permit renewal/modification allowing NCRP to operate until the facility returns to compliance.

The facility operating as Lumberton Energy, LLC and NCRP has had the following compliance issues within the past five years:

- On March 25, 2014, Lumberton Energy, LLC was issued a Notice of Deficiency (NOD) for failure to conduct an energy assessment per the requirements of GACT Subpart 6J.
- On May 15, 2015, NCRP was issued a NOD for a late report.
- On June 29, 2016, NCRP was issued a NOV/NRE for exceeding SB3 limits for $PM_{2.5}$, SO_2, and NO_x; for having excessive COMS downtime in violation of NSPS Subpart Db, and for failing to conduct source testing within 180 days of startup of the boilers.
- On August 1, 2016, SOC 2016-002 was issued to address violations cited in the NOV/NRE on June 29, 2016. The order also addressed issues relating to CO emissions. NCRP paid $9,000 for these violations under the SOC.
- On September 12, 2016, NCRP was issued a NOD for failure to submit a Notice of Compliance Status within 120 days of initial tune-up of the boilers.

- On October 28, 2016, the facility submitted a "Compliance Plan" as required by SOC 2016-002. The Plan stated that the facility intends to submit a PSD application.
- On November 16, 2016, the facility was issued a NOV/NRE for exceeding the PSD avoidance limit for CO emissions.
- On February 27, 2017, SOC 2017-001 was issued to address exceedances of the PSD avoidance limit for CO emissions. The facility is required to submit at PSD permit application within 30 days of issuance the SOC. The facility is also required to pay $15,000 plus stipulated penalties under the SOC.

19. Public Notice/EPA and Affected State(s) Review

A notice of the DRAFT Title V Permit shall be made pursuant to 15A NCAC 02Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Consistent with 15 A NCAC 02Q .0525, the EPA will have a concurrent 45-day review period. Copies of the public notice shall be sent to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 02Q .0522, a copy of each permit application, each proposed permit and each final permit pursuant shall be provided to EPA. Also pursuant to 02Q .0522, a notice of the DRAFT Title V Permit shall be provided to each affected State at or before the time notice provided to the public under 02Q .0521 above. South Carolina is an affected state within 50 miles of this facility.

20. Other Regulatory Considerations

- A P.E. seal was required and provided in Permit Application Nos. 7800166.16F and 7800166.16G.
- A zoning consistency determination was required and provided in Permit Application No. 7800166.16G.
- A permit fee of $922 was required and submitted with Permit Application Nos. 7800166.16F and 7800166.16G.

21. Recommendations

The permit modification applications for North Carolina Renewable Power - Lumberton, LLC located in Lumberton, Robeson County, NC has been reviewed by DAQ to determine compliance with all procedures and requirements. DAQ has determined that this facility is complying or will achieve compliance, as specified in the permit, with all requirements that are applicable to the affected sources. The DAQ recommends the issuance of Air Permit No. 05543T25.

Attachment 1
Comparison of Emission Factors for Criteria Pollutants

Pollutant	Uncontrolled Emission Factor Comparison (lb/mm Btu)								Controlled Emission Factor Comparison (lb/mm Btu)					Emission Rates (ton/yr)	
	AP-42: 1.6[1]	MDI[2]	EPI North Carolina[3]	2013 Testing 1[4]	2013 Testing 2[5]	2014 Testing[6]	Max. Uncontrolled Emission Factor	Uncontrolled Emission Factor Selected by NCRP	Control Efficiency	Controlled Emission Factor Selected by NCRP	SB3 BACT Limits Wood Only	SB3 BACT Limits Wood/Poultry Litter	Maryland Study[7]	Uncontrolled Emissions	Controlled Emissions
PM	0.347	5.300	6.548	0.099	0.737	0.018	6.5480	0.720	95%	0.04	0.04	0.04	0.02	1,356	68
PM_{10}	0.307	---	---	0.071	0.005	0.004	0.3070	0.600	95%	0.03	0.036	0.036	0.02	1,130	57
$PM_{2.5}$	0.267	---	---	0.028	0.732	0.014	0.7320	0.220	95%	0.01	0.01	0.01	0.02	414	21
SO_2	0.025	0.280	0.168	0.400	0.240	0.122	0.4000	1.120	80%	0.22	0.0250	0.2200	0.0700	2,109	414
NO_X	0.220	0.740	0.279	0.230	--	0.210	0.7400	0.267	40%	0.16	0.1250	0.1600	0.03 - 0.20	503	302
CO	0.600	0.050	0.065	--	--	0.228	0.6000	0.450	0%	0.45	0.45	0.24	0.2	848	848
VOC	0.017	0.010	0.003	--	--	--	0.0170	0.030	0%	0.03	0.03	0.03	--	57	57
Fuel Mix	All Wood	Stoker/100% PL	Stoker/100% PL	60% and 80% PL during testing	40% and 20% PL during testing	Unknown/ Target PL ratio of 25%	--	--	--	--	100% wood	Up to 85% PL	30% PL	Up to 85% PL	Up to 85% PL

Notes::

1. Emission factors from Chapter 1.6 "Wood Residue Combustion In Boilers" (September 2003) in EPA's AP-42.
2. Emission factors from November 1999 testing on a walking stoker boiler at Eastern Correctional Institution Cogeneration Facility, Full Scale Poultry Litter Test Burn, Maryland Environmental Services, July 2000.
3. Source Test Report, Prestage Farms Incorporated, Test Dates November 15-17, 2011 from combustion of poultry litter in a fluidized bed combustor.
4. Source testing conducted at CCCP on May 22 and 23, 2013. Testing was approved by DAQ via memorandum on 12/11/2013.
5. Source testing conducted at CCCP on July 17, 2013. Testing was approved by DAQ via memorandum on 12/11/2013.
6. Source testing conducted at CCCP on 07/31/2014. Testing was approved by DAQ via memorandum on 12/18/2014. However, the testing cannot be "considered representative until fuel firing ratio is documented to the satisification of the DAQ."
7. Emission factors were reported in "A review of Expected Air Emissions for the Proposed Firbroshore 40-MW Power Plant to be Fueled with Poultry Litter and Wood," ARI, February 2001.

Lumberton - Evaluation of SO_2				
		Mixture		
		Design Poultry Litter	Average non-CISWI Wood Wood	**85% Poultry Litter and 15% Wood Waste**
Fuel Composition				
Sulfur	%, ar	0.60	0.06	0.52
Heating Value	Btu/lb, ar	4675	4450	4641
Evaluation of SO_2 Removal Requirement				
SO_2 Formed (mass balance)	lb/MMBtu			2.236
Uncontrolled SO_2 (assuming 50% Furnace Capture)	lb/MMBtu			1.12
Control Device Efficiency (BACT requirement)	%			80
Controlled SO_2 Emission	lb/MMBtu			0.22

Attachment 2

Calculations of Poultry Litter Emissions

Measure	Value	Source
Estimate of PM Emissions from Handling of Poultry Litter		
PM Emission Factor	0.01 lb/ton.	There is an equation for aggregate handling and storage piles in AP-42 Section 13.2.4. which estimates particulate emissions when material is dropped on a surface. When applying a very low wind speed (indoors),
Throughput of poultry litter	20.4 tons/hr, per boiler 40.8 tons/hr total	Calculated assuming 215 million Btu/hr lb/mm Btu heat capacity and a maximum poultry litter blend of 15% / 85% biomass/poultry litter feed mix. Feed rate of poultry litter is calculated in table below
Hours of operation	8760 hr/yr	--
PM Emissions	E = 0.01 lb PM / ton * 40.8 tons/hr * 8,760 hr/yr E = 3,574 1b/yr = 1.8 tons/yr	
Emissions of NO_x		
NO2 flux rates for land application of poultry and swine manure	61.3 to 184 mg NO_x/m^2-d 3.8E-5 lb NO_x/ft^2-yr	The range is for the entire year. The highest end of the range was used as a conservative estimate. Iowa State University (2006)[9]
Area of poultry litter warehouse	100 ft by 150 ft 15,000 ft2	Conservative estimate of size of warehouse/poultry litter shed.
Hours of operation	365 days/yr	--
NH3 emissions	E = 3.8E-5 lb NO_x/ft^2-yr * 15,000 ft^2 * 365 days E = 206.3 lb/yr = 0.10 tons/yr	
Emissions of NH3		
NH3 flux rates from storage of poultry litter	4.1 to 9.1 g NH/m^2-d 8.4E-4 lb $NH3/ft^2$-d	Typically, the higher end of the range would be used to provide a conservative estimate. However, the poultry litter delivered to the site has been dried and screened. It has been observed to be similar to wood chips and has very little detectible odor. For this reason, the lower end of the range is a better representation of expected ammonia emissions. Iowa State University (2006)[10]
Area of poultry litter warehouse	100 ft by 150 ft 15,000 ft2	Conservative estimate of size of warehouse/poultry litter shed.
Hours of operation	24 hrs/day	--
NH3 emissions	E = 8.4E-4 lb $NH3/ft^2$-d * 15,000 ft^2 / 24 hr/day E = 0.52 lb/hr	

[9] Air Quality and Emissions from Livestock and Poultry Production / Waste Management Systems. (2006) Retrieved from http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1624&context=abe_eng_pubs

Calculation of Poultry Litter Throughput at Maximum Feed Rate

Properties of Fuel					
Fuel Mix : 15% Wood and 85% Poultry Litter					
HHV of Wood	4,730	Btu/lb as reported in wood fuel specification (BEL)			
HHV of Poultry Litter	4,435	Btu/lb as reported in NHSM request letter			
Overall HHV	4,479	Btu/lb			
Fuel Feed Rate					
Feed rate of fuel = Heat Input of Boiler/ Overall HHV * CF					
Heat Input of Boiler	215	mm Btu/hr			
Feed rate of fuel =	**24.0**	**ton/hr per boiler**			
Feed rate of poultry litter = (Feed rate of fuel)*0.85					
Feed rate of poultry litter =	**20.4**	**ton/hr per boiler**			
Feed rate of Wood = (Feed rate of fuel)*0.15					
Feed rate of Wood =	**3.6**	**ton/hr per boiler**			

Attachment 3
Schedule of Compliance

2.3 - Schedule of Compliance

A. Special Order by Consent (2017-001)

The CO emissions from boilers (ID Nos. ES-1A and ES-1B) as determined by CO CEMS exceeded 250 tons on a consecutive 12-month basis in September 2016. The Permittee anticipates this emission limit will be exceeded on an ongoing basis thereafter. Therefore, the Permittee is deemed in noncompliance with 15A NCAC 02D .0530, in accordance with Section 2.2 A.2.j above.

The Permittee and the NC Division of Air Quality have entered into a Special Order of Consent, SOC 2017-001, with an effective date of February 27, 2017, to address noncompliance with 15A NCAC 02D .0530. The SOC provides a schedule of compliance allowing the Permittee to operate until such time as the Permittee has returned to compliance with 15A NCAC 02D .0530. The SOC 2017-001 will expire upon issuance of the PSD permit to NCRP and the date the PSD permit becomes final and enforceable after all periods to appeal the issuance of the permit have expired and after all penalties accrued under SOC 2017-001 have been paid in full.

The schedule of compliance for the Permittee, as provided in SOC 2017-001 and as required in accordance with 40 CFR 70.5(c)(8) and 70.6(c)(3), is as follows:

1. The Permittee shall submit a PSD permit application for the North Carolina Renewable Power – Lumberton, LLC facility (Facility ID No. 7800166) no later than 30 days from the effective date of SOC 2017-001.
2. The Permittee shall submit (written or electronically) a CO emission report to the Regional Supervisor within 14 days of the end of each calendar month. The CO emission report shall contain the following:
    a. A detailed description of boiler operations;
    b. The amount and type of fuel combusted in the boilers;
    c. Heat input calculations for each boiler; and
    d. The peak rate of CO emissions (lb/million Btu and lb/hr), the total CO emissions (tons) for the month, and the consecutive 12-month total CO emissions (tons).
3. In accordance with 70.6(c)(3), the Permittee shall submit a semiannual progress report, acceptable to the Regional Air Quality Supervisor, postmarked on or before January 30 of each calendar year for the preceding six-month period between July and December, and July 30 of each calendar year for the preceding six-month period between January and June. The progress report shall contain the following:
    a. Dates for achieving the activities, milestones, or compliance required in this schedule of compliance, and dates when such activities, milestones or compliance were achieved; and
    b. An explanation of why any dates in the schedule of compliance were not or will not be met, and any preventive or corrective measures adopted.